

What is claimed is:

1. A method for manufacturing a plasma display panel,
comprising the steps of:

forming barrier ribs on a surface of an insulating
5 substrate in order to separate a plurality of cells from one
another;

applying a phosphor material in the form of paste to a
surface of said insulating substrate and side surfaces of
said ribs; and

10 radiating light onto a surface of said phosphor
material prior to drying said phosphor material and
observing a pattern of light reflected from each of said
plurality of cells in order to inspect whether a phosphor
material is normally being applied to each of said plurality
15 of cells.

2. The method for manufacturing a plasma display panel
according to claim 1, wherein the inspection step of
inspecting whether a phosphor material is normally being
applied to each of said plurality of cells comprises the
20 steps of:

capturing an image of said applied phosphor material
while radiating light onto a surface of said applied
phosphor material in order to obtain image data indicative
of said image of said applied phosphor material;

25 distinguishing patterns of images each consisting of
light reflected from each of said plurality of cells from
one another based on said image data; and

inspecting whether said phosphor material is normally

being applied to each of said plurality of cells based on results obtained by distinguishing said patterns from one another in order to determine whether or not a phosphor layer formed by drying said phosphor material will normally
5 be formed.

3. The method for manufacturing a plasma display panel according to claim 2, wherein the step of determining whether or not a phosphor layer formed by drying said phosphor material will normally be formed is carried out
10 such that whether an amount of a phosphor material applied to each of said plurality of cells is suitable, excessive or small is determined, whether or not each of said plurality of cells includes one of a pinhole and an abnormal substance is determined, and further, whether or not said phosphor
15 material has flowed into a cell to which said phosphor material is not to be applied is determined.

4. The method for manufacturing a plasma display panel according to claim 2, wherein the step of determining whether or not a phosphor layer formed by drying said
20 phosphor material will normally be formed comprises the steps of:

detecting micro-defects defined as a defect included in each of said plurality of cells; and

detecting macro-defects defined as a defect included
25 in each of blocks consisting of plurality of cells.

5. The method for manufacturing a plasma display panel according to claim 1, wherein the step of applying a phosphor material in the form of paste to a surface of said

insulating substrate and side surfaces of said ribs is performed on a subsequent insulating substrate to be processed in a step subsequent to the step of manufacturing said insulating substrate, based on results obtained in the inspection step of inspecting whether a phosphor material is normally being applied to each of said plurality of cells.

6. The method for manufacturing a plasma display panel according to claim 1, wherein said phosphor material is employed as one of a plurality of phosphor materials corresponding to a plurality of colors and one of said plurality of phosphor materials is excited and emits light of one of said plurality of colors and wherein the inspection step of inspecting a phosphor material is performed a plurality of times to allow the method to include a plurality of inspection steps corresponding to said plurality of colors of excited lights emitted from said plurality of phosphor materials, and wherein on and after the second inspection step, whether or not a phosphor layer will normally be formed is determined based on results obtained in a current inspection step chosen out of said plurality of inspection steps and currently being performed, and results obtained in the inspection steps performed before said current inspection step.

7. The method for manufacturing a plasma display panel according to claim 1, wherein said light is light having a wavelength range so as to be able to prevent said phosphor material from being excited and emitting light.

8. The method for manufacturing a plasma display panel

according to claim 1, wherein the step of applying a phosphor material is a step of applying said phosphor material to a surface of said insulating substrate and side surfaces of said ribs by printing techniques.

5 9. An inspection method for inspecting a phosphor layer, said phosphor layer being formed by applying a phosphor material in the form of paste to a surface of an insulating substrate whose surface is divided into a plurality of cells and drying said phosphor material, said
10 inspection method comprising: observing a pattern of light reflected from each of said plurality of cells while radiating light onto a surface of said phosphor material, after application of said phosphor material to said substrate and prior to drying said phosphor material, in
15 order to inspect whether a phosphor material is normally being applied to each of said plurality of cells and then determine whether or not said phosphor layer will normally be formed.

 10. The inspection method for inspecting a phosphor
20 layer according to claim 9, wherein the step of observing said pattern of light reflected from each of said plurality of cells comprises the steps of:

 capturing an image of said applied phosphor material while radiating light onto a surface of said applied
25 phosphor material in order to obtain image data indicative of said image of said applied phosphor material;

 distinguishing patterns of images each consisting of light reflected from each of said plurality of cells from

one another based on said image data indicative of said image of said applied phosphor material; and

inspecting whether said phosphor material is normally being applied to each of said plurality of cells based on
5 results obtained by distinguishing said images from one another in order to determine whether or not a phosphor layer formed by drying said phosphor material will normally be formed.

11. An inspection apparatus for inspecting a phosphor
10 layer, said phosphor layer being formed by applying a phosphor material in the form of paste to a surface of an insulating substrate whose surface is divided into a plurality of cells and drying said phosphor material, said inspection apparatus comprising:

15 a light source disposed above said substrate and illuminating said phosphor material being applied in the form of paste;

a camera disposed above said substrate and capturing an image of said phosphor material being applied; and

20 a data processor for identifying a pattern of light reflected from each of said plurality of cells based on image data indicative of said image of said phosphor material captured by said camera and inspecting whether said phosphor material is normally being applied to each of said
25 plurality of cells in order to determine whether or not said phosphor layer will normally be formed.

12. The inspection apparatus for inspecting a phosphor layer according to claim 11, wherein said camera is disposed

directly above said phosphor material whose image is to be captured by said camera and wherein said light source is employed as one of two light sources and said two light sources are disposed so as to interpose said camera therebetween.

13. The inspection apparatus for inspecting a phosphor layer according to claim 11, wherein said light source output light having a wavelength range so as to be able to prevent said phosphor material from being excited and emitting light.

14. The inspection apparatus for inspecting a phosphor layer according to claim 11, further comprising convey unit for moving said substrate relative to said camera wherein said camera scans a surface of said substrate to capture said image of said phosphor material by making said convey unit cause said substrate to move relative to said camera while allowing said camera to capture an image of a part of said substrate.